

Fokker FVIIb/3m

- A famous airliner of the 1920-1930's

Modelled for

Flight Simulator X

And

Flight Simulator 2004 (A Century of Flight)

by

Jens B. Kristensen

Version 2.0 November 2006



Fokker FVIIb/3m

Introduction

The Fokker FVII was, in its various versions, the most successful European airliner of the decade between 1925 and 1935, and had also considerable success in the USA.

The original Fokker FVII of 1924 was only built in a few examples, an almost complete redesign resulted in the single-engined FVIIa in 1925. This was an excellent 8-passenger airliner used by KLM, Balair, Danish Air Lines and other European airlines.

The three-engined Fokker FVIIa/3m appeared soon after; the first Fokker trimotor was, in fact, the second FVIIa built. The FVIIa/3m was mainly sold in America after winning the Ford Reliability Tour of 1925.

The most produced version was the FVIIb/3m, which had a larger wing and could carry a larger payload. The first four FVIIb/3m's were delivered to KNILM (Royal Dutch East-Indian Airways) in 1928.

The FVIIb/3m was produced with many different engine/propeller combinations. The KNILM aircraft were powered by three 215 hp Armstrong Siddeley Lynx seven-cylinder radial engines, and had Hamilton Standard propellers - a three blade propeller for the centre engine and two-bladers for the others.

The maximum speed was 115 mph, best cruising speed 93 mph. Time to 1000 m (3280 ft) 8 min, to 2000 m (6560 ft) 20 min. Range approx. 800 km (440 nautical miles).

The Lynx-engined FVIIb/3m was licence-built in England as the Avro 618 'Ten'; Imperial Airways and Australian National Airways had this, among others.

Later examples for KLM, SABENA, CIDNA, Air France and others had Gnome-Rhone Titan 5-cylinder engines; aircraft sold in the USA and to some European operators had Wright Whirlwind 9-cylinder engines. For example, Pan American bought three second-hand FVIIa/3m, refurbished by Fokker with Whirlwind engines, and then two new FVIIb/3m. They were flown on routes connecting Key West (Florida) with Miami and Havana.

This package contains F.VIIb/3m's of KLM, KNILM and Swissair.

New in this version

The model now works with both FSX and FS2004; the panel is completely new; the virtual cockpit much better. The model itself has been improved a little as well.

Using the panel

The main panel



The screenshot shows the virtual cockpit, but there is also a 2D panel for you if you prefer this. The pilot had only a few flight instruments – airspeed indicator, altimeter, turn-and-bank indicator and a ‘liquid’ pitch indicator. I have added an ADF homing indicator (see below). In the centre of the panel are the engine instruments for the centre engine. Gauges for the outer engines were on the engine nacelles, you must look out of the window to see them! The magnetic compass was placed on the pedestal below the panel itself.

The new version of the panel is vastly improved over the previous release. Some of the gauges are standard gauges by Microsoft (mainly from the FS2004 Ford Trimotor and Lockheed Vega), the prominent ‘Controleur de Vol’ (airspeed and turn-and-bank indicators in one) is by me. In the Avro Ten and the PanAm FVIIb/3m, I have replaced the ‘Controleur de Vol’ with an airspeed indicator calibrated in M.P.H. instead of km/h.

Auxiliary panels

SHIFT+2: Handheld, modern radio.

SHIFT+3: The GPS map. Of course, GPS did not exist at that time, and you can only use it as a convenient real-time map. You cannot use it for automatic navigation. Think of the GPS window as a substitute for the maps and instructions you would get from your second pilot.

SHIFT+4: Throttles, mixture control and starter switches for the three engines. Trimmers for the elevator and the rudder.

SHIFT+5: ADF receiver and radio compass. European aircraft of the early and middle 1930's relied on a kind of radio navigation not supported by Microsoft Flight Simulator. From time to time, the aircraft called ground-based radio stations to get directional bearings. From these, the second pilot (or the ground based staff) calculated the position and informed the pilot. Instead of this, I have included this ADF Radio Compass, and the ADF homing indicator on the captain's panel.

SHIFT+6: An autopilot. The real aircraft did not have an autopilot, but it is convenient on long flights (you can pretend your second pilot is flying the aircraft!). The autopilot is that of the FS2004 Lockheed Vega. The best way to engage it is to press CTRL+SHIFT+H followed by CTRL+H. Then the autopilot is in 'heading hold' mode. Other useful keyboard shortcuts:

Altitude hold : Press Ctrl+Z

Disengage altitude hold: Press Z+Z, that's Z two times.

Flying instructions

This information is available during your flight, just press Shift+F10 in FSX, or F10 in FS2004, to call up the electronic kneeboard, and select the reference tab

Before Takeoff

Elevator trim ½ division up.

Rudder trim ½ -1 division left.

These trim settings are important, especially the rudder.



Takeoff and initial climb

Full throttle. The tail lifts by itself at 50 mph (42 kts). Take off at 65 mph (58 kts).

When safely airborne reduce throttle a little. Let the aircraft accelerate to 80 mph (71 kts) and begin to climb.

En route climb

Engine speed 1800 RPM. Keep speed around 80 mph (71 kts), climb rate at low altitudes will be 400-500 fpm according to weight.

Cruise

Engine speed 1700 RPM, adjust throttle from time to time to hold a cruising speed of 93-95 mph (83 kts).

Descent and landing

The Fokker does not have flaps for landing, so you should not reduce speed by much until you are close to the runway.

Do not use Flight Simulator IFR flight plans – the Air traffic Control (ATC) will order you to follow an approach suitable for a modern aircraft. Approach the airport 1000 ft above ground, start your final descent 4-5 n.m. before the runway. When you are close to the runway, idle your engines and land.

References

General reference: H.A.Taylor and Peter Alting: Fokker's lucky Seven, Air Enthusiast Twelve, p. 24-38, 1980

Cockpit photos: 'FlyPast' magazine, April 1998, www.airliners.net, and photos of the single-engined FVIIa preserved in the Aviodrome museum in Lelystad, sent to me by Hans Köler. Thanks.

Pictures and background information on KLM Fokker operations can be found in a book recently (2004) cheaply for sale at the Aviodrome museum in Lelystad, Holland. *Huub Surendook: Maintenance in Motion 1921-1996, 75 years KLM Engineering and Maintenance*. Highly recommended!